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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/644,463	08/23/2000	Matthew B. Haycock	884.303US1	2625
21186	7590	11/15/2004	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			PHAN, RAYMOND NGAN	
			ART UNIT	PAPER NUMBER
			2111	

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/644,463

Applicant(s)

HAYCOCK ET AL.

Examiner

Raymond Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 20-27 is/are allowed.
6) ☒ Claim(s) 1-19 and 28-30 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) *
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: remarks filed on August 2, 2004.
2. This application has been examined. Claims 1-30 are pending.

Specification

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112: The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach or suggest a processor coupled to the output node of the receiver (see claim 6)

The disclosure is non-enabling for claim 6 because the limitations recited in the claim 6 were merely hinted as possible modifications to the claimed invention and no circuit diagrams or suggestion were provided to make modifications as hinted. Therefore, undue experimentation is required and the disclosure does not enable a person skilled in the art to make and use the claimed invention.

Claim Rejections - 35 USC § 112

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4. Claims 1 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 28-29 are rejected under 35 U.S.C. § 102(e) as being anticipated by Walker (US No. 6,127,849).

In regard to claim 28, Walker discloses a method of synchronizing an agent to a bi-directional bus comprising de-asserting a ready signal to drive a transmission line having a second agent driver present thereon to signify the agent not ready to communicate on the bi-directional bus (see col. 5, line 39 through col. 7, line 10); asserting the ready signal to signify the agent is ready to communicate on the bi-directional bus (see col. 6, lines 11-33); monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bi-directional bus (see col. 6, lines 11-33).

In regard to claim 29, Walker discloses wherein asserting the ready signal comprising turning off a pulldown transistor having a first output

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impedance (see col. 6, lines 11-33); and turn on the pullup transistor having a second impedance, wherein the first second impedance is greater than the first output impedance (see col. 12, lines 27-65).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5, 7-11, 13-16, 19, 30, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Cowell (US NO. 5,860,134).

In regard to claims 1, 9, 16, 30, Walker discloses simultaneous bi-directional I/O circuit comprising a driver 406A having an output node 402b to be coupled to the conductor external to the integrated circuit (see figure 4a, col. 8, lines 47-65), such that driver launched an initial voltage value on the conductor when the driver changes states (see col. 8, line 66 through col. 9, line 20); a receiver 406b including an input node coupled to the output node of the driver 404 (see figure 4a, col. 8, lines 47-65). But Opreescu et al. do not specifically disclose the use of a receiver having input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver. However Cowell discloses the use of receiver having input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver (see figure 5, col. 6, line 55 through col. 7, line 25). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to

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have combined the teachings of Cowell within the system of Walker because it would provide a flexible mechanism for port selections.

In regard to claims 2, 19, Walker discloses driver comprising the pullup transistor having an output impedance, and the pulldown transistor having an output impedance, the output impedance of the pullup transistor being greater than the output of the pulldown transistor (see col. 12, lines 27-65).

In regarding of claim 3, even though the teachings of Walker does not specifically disclose output impedance of the pullup transistor is at least 5 times greater than the output impedance of the pulldown transistor, however one skilled in the art would have understood that they can choose set the number of time being greater to fulfill their need.

In regard to claims 4, 11, Walker disclose the simultaneous bi-directional port that includes a data driver and a data receiver, the data driver including a impedance control circuit (see col. 12, lines 27-65).

In regarding of claims 5, 7, 13, even though the teachings of Walker does not specifically disclose the IC is the circuit type from the group of processor, memory, however one skilled in the art would have understood that they can choose to implement the design into variety of type of circuits to fulfill their need.

In regard to claim 8, Walker discloses the step of including an initialization circuit to drive an input node of the driver low during initialization (see col. 8, line 66 through col. 9, line 20).

In regard to claim 14, Walker discloses wherein the data driver having an output impedance control circuit to modify an output impedance of the data driver; and the synchronize circuit is configured to alert the second

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simultaneous bi-directional port that the output of the impedance has been modified (see col. 12, lines 27-65).

In regard to claims 10, 15, Walker discloses the step of including an initialization circuit to drive an input node of the driver low during initialization (see col. 6, lines 12-36); the control circuit to turn on the termination terminals and to turn off the other termination terminal when at least one initialization circuit has performed (see col. 6, lines 12-66).

10. Claims 12, 17-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker et al. in view of Cowell and further in view of Opreescu et al. (US No. 5,325,355).

In regard to claims 12, 17-18, Walker and Cowell disclose the claimed subject matter as discussed above rejection except the teaching of wherein the initialization circuit including a slew rate control circuit. However Opreescu et al. disclose the slew rate control circuit (see col. 14, lines 14-43). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Opreescu et al. within the systems of Walker and Cowell because it would improve the speed of the data transfers.

Allowable Subject Matter

11. Claims 20-27 are allowable over the prior of records.

12. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claims 20 and 24 are allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of

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the said prior arts which teach a synchronization circuit to be coupled to a second synchronization circuit on the second integrated circuit, to indicate when the initialization of the simultaneous bi-directional port and an initialization of the second simultaneous bi-directional port is complete.

Response to Amendment

13. Applicant's arguments, see pages 8-13, filed on August 2, 2004, with respect to the rejections of claims 1-30 under 35USC103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Walker, Cowell and Oprescu et al.

Conclusion

14. Claims 1-19, 28-30 are rejected. Claims 20-27 are allowed.

15. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Lai et al. (US No. 6,549,964) disclose a delayed transaction method and device used in a PCI system.

Borkar et al. (US No. 5,604,450) disclose a high speed bi-directional signaling scheme.

Solomon et al. (US No. 5,948,094) disclose a method and apparatus for executing multiple transactions within a single arbitration cycle.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 746-7239.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 central telephone number is (571) 272-2100.



Raymond Phan

11/8/04



**PAUL R. MYERS
PRIMARY EXAMINER**